



SYSTEMS, INC.

CONDENSED PRODUCT DATA SHEET

TAPE LOOP

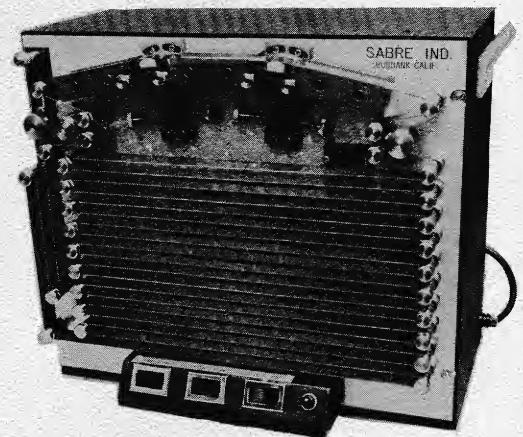
The new Model SS002 Sabre Tape Loop is an instrumentation quality engineering and production instrument that meets all the industrial and technical standards where tape handling equipment is employed during the design and production phase. It can, without excessive auxiliary equipment, be used for magnetic tape recording heads, acceptance testing and is ideally designed for repetitious analysis of data . . . determination of optimum tape tension . . . and . . . head wrap angle . . . while tape is moving. It will handle 28 feet of 1 inch or 1/2 inch tape better and more economically than most similar instruments.

A variable loop storage capacity, ranging from 2 to 28 feet, is mounted on a series of bearing mounted guide rollers. Three separate 3 inch chutes provide 13 in. of guidance tracking and skew control in the head area. Minimum tape wear is assured since every element of the instrument which contacts the tape, moves at tape speed . . . except the head faces and guide roller flanges. A pair of capstans, one located at the head input and the other at the head output, accurately control the speed and maintain minimum flutter.

Eight speeds are electrically selected in pairs from 1 7/8 - 3 3/4 . . . to . . . 120 - 240 inches per second. A simple belt change for each speed pair obtains other selected speed combinations. Head adjustment and alignment for maximum signal strength is made with an adjustable head plate. Controls on the front panel are . . . power (on/off) speed (hi/lo) and tape (run/stop). FWD & reverse are optional.

SPECIFICATIONS:

Power:	115 VAC 60 cycle/sec.
Size:	18.250 W x 15.00 H x 12.500 D in instrument case
Weight:	35 lbs.
Tape Length:	2 feet to 28 feet
Tape Width:	1/2" & 1" standard - 1/4" & 2.000" can be provided
Tape Speeds - (in pairs)	(1 7/8 - 3 3/4), (7.5 - 15), (120 - 60) & (120 - 240) ips. Others with simple pulley change
Tape Speed - Accuracy:	0.25% + 60 cycle line error
Flutter:	Less than 1.0% pp DC to 10 Kc at 60 ips - typically 0.5%
Skew:	Less than 3 usec at 60 + head gap scatter
Tape Tension:	Adjustable for both 1/2" & 1" tape
Head Adjustment:	Perpendicularity to plane of tape



MODEL SS002

AUTOMATIC TAPE LOADER

Model SS004 Automatic Tape Loader is an auxiliary piece of equipment which loads and unloads magnetic tape and film from standard reels to non-standard reels. It accommodates a range of tape widths up to 1 inch. Film or tape deformations and data loss problems are avoided by controlled tape tension and precision stacking resulting in a uniformly controlled stack. Model SS004 is designed to be operated by unskilled personnel.

Non-standard hubs are easily adapted to the loader reducing loading and unloading to a routine task. A tape footage counter indicates, in feet, the amount of tape wound. The device can be set to stop automatically when the desired diameter of tape is wound onto the take-up reel. Tape can be unloaded from all standard reel diameters up to and including 14".



MODEL SS004

LIGHT WEIGHT FILM BELT MFG. EQUIPMENT

Polyester film belts are rapidly finding usage in applications where light weight - precision drive characteristics are a necessity. These belts exhibit performance which cannot be accomplished with conventional woven fabric, and rubber or rubber-synthetic belts. Polyester film drive belts are currently being used in tape recorders, motion picture equipment, grinding equipment and film processing equipment . . . as examples.

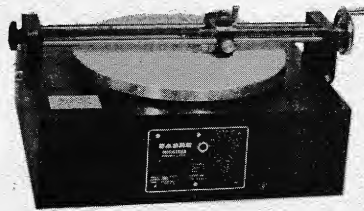
The polyester film belts are fabricated from flat sheets of film by a heat forming process. Thus, the belt is continuous with no irregularity or "weak section" caused by splicing. Film belts are generally from 0.5 mils to 10 mils thick, and have a very uniform cross section. Since polyester film has a comparatively hard surface, the belt does not pick up dirt particles which cause bumps and irregularities . . . a problem often encountered with impregnated fabric belts.

Many of the polyester films have tensile strength capabilities in the 25,000 PSI range, a strength generally not obtainable with conventional materials. Thus, small mass belts can drive very large loads, and at extremely high speeds with good results.

The films used to make belts are impervious to physical deformation when exposed to acids, oils, comparative temperature extremes (-40°F to 250°F), humidity and altitude. The belts are most suitable to drive applications where military specifications govern the design of equipment.

The belts can be easily fabricated for a wide range of pulley widths and center to center distances. The equipment described discusses the different tools needed.

MODEL SS003



FABRICATION OF POLYESTER FILM BELTS

Polyester film belts are fabricated from flat sheets of the base material. The resulting belt, after forming, is continuous and splice free. Three steps are required in the fabrication of a film belt.

1. Washer Cutting
2. Belt Forming &
3. Belt Trimming

Each of the three steps in fabricating a belt are explained, as well as a description of the equipment used.

(1) WASHER CUTTING:

The length, width, and thickness of the belt required are determined by the application. These factors are determined by considering the load, speed reduction, speed and material characteristics. (See application notes on "Determining Belt Size"). When the size of the belt is known, the base material is selected which has a thickness equal to the belt thickness. A washer outside diameter is selected that is from 5 to 50% less than the ultimate belt diameter. The inside diameter of the washer is selected to establish the belt width plus 10%.

The film can now be cut on the washer cutter. The cutter is designed to cut both the o.d. and i.d. of the washer.

The cutter (see photograph) has a speed controlled cutting table. A coating bonded to the surface of the cutting table makes it possible to place sheets of film under the precisely located blades so they are held firmly during the cutting operation.

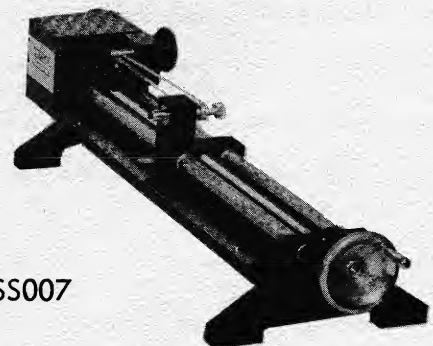
The position of the blades are set for both the o.d. and i.d. by means of precision lead screw controlled slides. The position of the slide is indicated on a scale and is repeatable to 0.005 inches. As many as 12 washers can be obtained from one cutting.

(2) BELT FORMING:

Polyester film belts are formed from the washers under a controlled heat condition. The washer is placed between two mandrels which are moved apart at a steady controlled rate . . . and rotate continuously at controlled speed. As the mandrels move apart, the belt is heated to the correct temperature. Under this condition, the mandrels are moved apart until the correct length of belt is formed. The belt is then allowed to run on the mandrels under heat for a heat treating cycle . . . which reduces the stress in the belt so it retains its formed shape, when it is removed from the mandrels.

(3) BELT TRIMMING:

Belt trimming is accomplished after the belt has been formed to the correct length and thickness. The formed belt is placed on a fixture (see photograph) which drives the belt around a pulley at a controlled speed. Usually a pulley is selected which is the desired width of the finished belt. A blade is held to the edge of the belt and it is trimmed down to the pulley width. A vacuum attachment removes the trimmings away from the trimming area.



MODEL SS007

SABRE

SYSTEMS, INC.

519 SO. FLOWER STREET
BURBANK, CALIFORNIA 91502

PHONE
849-7259
849-3239



SYSTEMS, INC.

CONDENSED PRODUCT DATA SHEET

TAPE LOOP

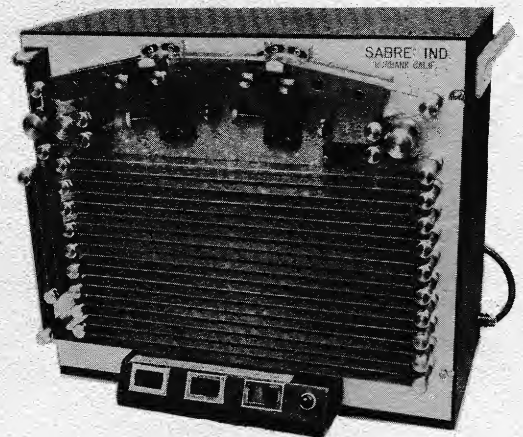
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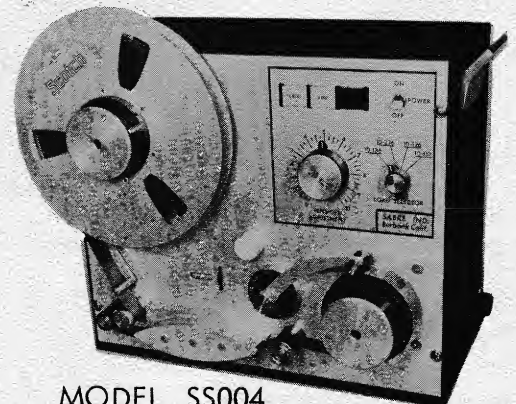


MODEL SS002

AUTOMATIC TAPE LOADER

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Non-standard hubs are easily adapted to the loader reducing loading and unloading to a routine task. A tape footage counter indicates, in feet, the amount of tape wound. The device can be set to stop automatically when the desired diameter of tape is wound onto the take-up reel. Tape can be unloaded from all standard reel diameters up to and including 14".



MODEL SS004

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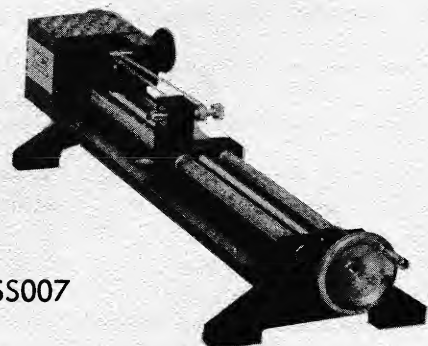
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Polyester film belts are formed from the washers under a controlled heat condition. The washer is placed between two mandrels which are moved apart at a steady controlled rate . . . and rotate continuously at controlled speed. As the mandrels move apart, the belt is heated to the correct temperature. Under this condition, the mandrels are moved apart until the correct length of belt is formed. The belt is then allowed to run on the mandrels under heat for a heat treating cycle . . . which reduces the stress in the belt so it retains its formed shape, when it is removed from the mandrels.

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MODEL SS007

SABRE

SYSTEMS, INC.

519 SO. FLOWER STREET
BURBANK, CALIFORNIA 91502

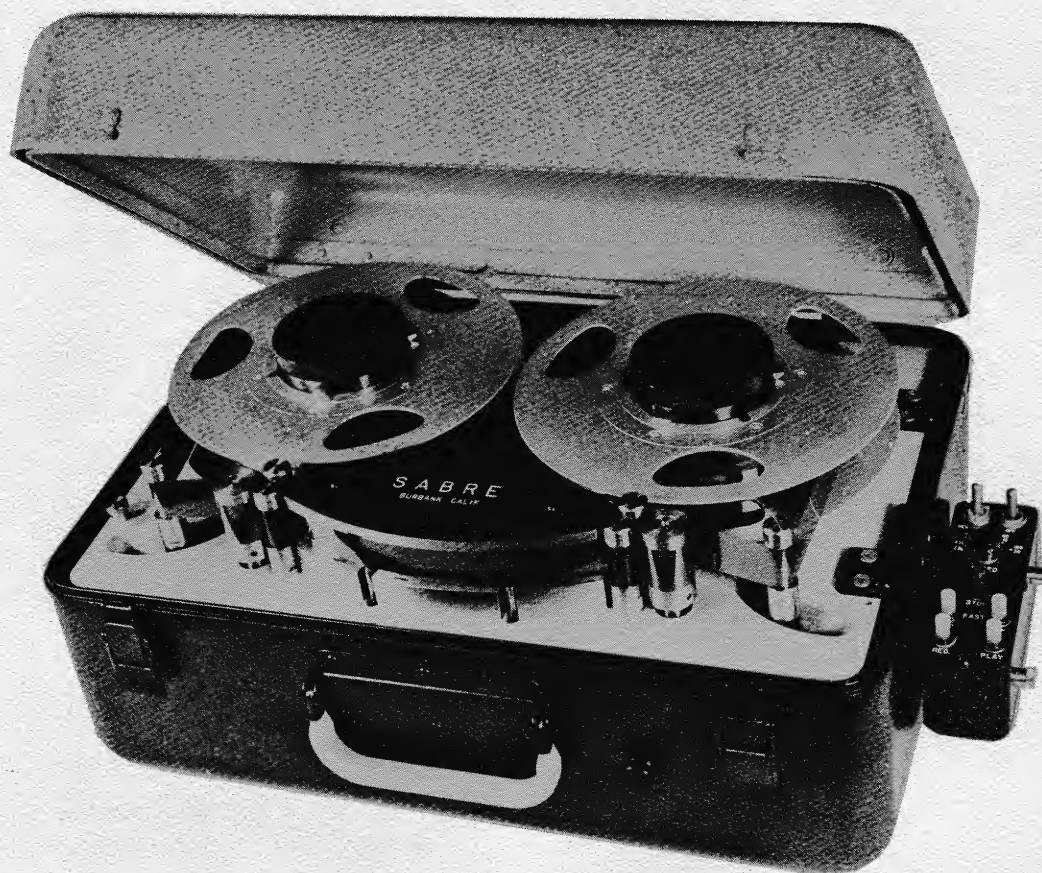
PHONE
849-7259
849-3239

SABRE

SYSTEMS, INC.

Tape Recorder/Reproducer

MODEL SS-001



PORTABLE TAPE RECORDER/REPRODUCER SUITABLE FOR
AIRBORNE • FIELD • LABORATORY • INDUSTRIAL NEEDS
HAS FEATURES AND PERFORMANCE CHARACTERISTICS
• • • ONLY NOW AVAILABLE

- PRECISION
- RELIABILITY
- CONVENIENCE

SABRE SYSTEMS, INC.

519 SOUTH FLOWER
BURBANK, CALIFORNIA 91502

Unique Simplicity Offers Outstanding Performance and Reliability in the Field or Lab.

The SS-001 Tape System is designed to satisfy the most exacting requirements of data gathering and analysis. For the first time, a unit is available, which gives laboratory performance . . . is insensitive to rugged punishment . . . and doesn't cost like it's going to the MOON. This small system gives optimum results, whether on the bed of a truck or rack mounted.

COMPARE THESE FEATURES

Electrically Selectable Speeds SERVO Controlled . . . Small Size . . . Light Weight . . . Instrumentation Quality Performance . . . Tape Lifters to Increase Head Life . . . Low Power . . . Bi-directional Operation . . . Servo Controlled Reel Tape Tension . . . Electronics Easily Accessible . . . Sealable Instrument Case . . . Remote and Local Mode Controls . . . 8" NAB or 8½" IBM Reels . . . Low Stop/Start Time . . . Rapid Tape Width Conversion 1" and 1/2" . . . Positive Action Easy to Operate Reel Hub Locks.

The entire recorder/reproducer system is mounted in a sealed carrying case. The unit unhinges from the case for rack mounting.

The electronics and transport configuration is designed for operation convenience, providing for field adjustment and calibration.



SYSTEM SPECIFICATIONS

Size:	18" x 12" x 8.625"
Weight:	50 lbs.
Power:	28VDC \pm 10% (50–400 Hz 110–220V available)
Temperature:	0° to 60° C. operating
Vibration:	5g's random MIL E 5272C Procedure XIII
Shock:	25g's 11 msec MIL E 5272C Procedure V
Acceleration:	14g's MIL E 5272C Procedure III
Altitude:	150,000 ft.
Humidity:	100% with condensation (with cover closed)

--- Heading For a Field

You Have Opti

SS-001 Tape Transport is designed for convenient operation and maximum reliability. The three motors allow for servo reel tension, and servo capstan speed control. Dynamic braking eliminates mechanical brakes except for the power off mode. Gentle Tape handling and dual capstan tape drive gives trouble free continuous performance. Tape guidance and skew are optimized by a long chute thru the entire head area. The standard unit is designed to conform with IRIG 106-65. Special configurations are also available.

TRANSPORT SPECIFICATIONS

Power:	28VDC \pm 10% 70 Watts
Speeds:	120, 60, 30, 15, 7-1/2, 3-3/4, and 1-7/8 inches per second (any adjacent 5 speeds electrically selectable and servo controlled) 150 ips Fast Forward and Fast Reverse.
Speed regulation:	0.2% (continuously variable speed available)
Flutter:	0.5% pp DC-10KHz at 60 ips
Start/Stop time:	500 milsec maximum at 60 ips
Tape widths:	1" and 1/2" field changeable
Reel size:	8" NAB or 8 1/2" IBM
Tape Capacity:	3/4 mil base 2400 1 mil base 1800 1.5 mil base 1200
Tape lifters:	Operate automatically in fast forward or fast reverse.
Direction of operation:	Bi-directional
Controls:	Record, Play, Fast Fwd., Fast Rev., Stop, Direction, Power On/Off, Speed.
Head Stack Configuration:	In conformance with IRIG 106-65 others on special order

ELECTRONIC PERFORMANCE

The electronics for the SS-001 Tape System are of plug in etched circuit design. Common Power supplies, allows the operator, to select the record/reproduce mode . . . DIRECT . . . FM . . . DIGITAL. Multiple or single speed networks for the electronics can be specified. Adjustments and controls are conveniently located.

ELECTRONIC SPECIFICATIONS (DIRECT AND FM)

(Analog and FM):	Direct	S/N		FM	S/N
Tape Speed ips	Band width \pm 3db	db	Carrier	Band Width \pm 0.5db	db
120	300Hz - 600KHz	34	216KHz	DC-40KHz	44
60	300Hz - 300KHz	34	108KHz	DC-20KHz	43
30	200Hz - 150KHz	33	54KHz	DC-10KHz	42
15	100Hz - 75KHz	32	27KHz	DC-5KHz	41
7 1/2	100Hz - 37.5KHz	31	13.5KHz	DC-2.5KHz	40
3 3/4	100Hz - 18.7KHz	30	6.75KHz	EC-1.25KHz	39
1 7/8	100Hz - 9.3KHz	29	3.375KHz	DC-.625KHz	38
			DC-80KC = 120 ips Available		
Input Sensitivity	0.5V to 20V pp		0.5V to 20V pp		
Input Impedance	100K ohm min.		100K ohm min.		
Distortion	1.0% Third Harmonic at normal record level		1.0% max. at \pm 40% deviation		
Linearity	2.0% amplitude		1.0% best straight line		
Stability	Not applicable		1.0% long term		
Output level	5.0V pp		5.0V pp		
Output Impedance	100 ohm max.		100 ohm max.		
Plug-In Networks	Single or multiple speed		Single or multiple speed		

Test
Or Just a Pleasant Break - - -
imum Performance



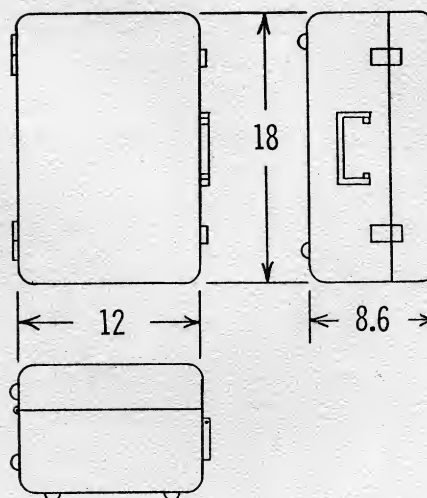
ELECTRONIC SPECIFICATIONS (Digital):

Input Level:	6VDC \pm 1 Volt "1" 0VDC \pm 1 Volt "0"
Input Impedance:	10K ohm minimum
Output Level:	Same as input level
Output Impedance:	600 ohm maximum
Recording format:	NRZ change or NRZ mark
Bit Packing Density:	Up to 1000 bit/inch
Interchannel timing: error:	6 microsec. max. at 60 ips Tape is controlled by 7 inch long chute.
Rise & Fall Time:	1.2 microsec. max.
Bit Dropout Rate	Ranges from one in 10^6 to one in 10^7 Depending on bit rate, packing density and number of tracks

Electronics for digital SKEW correction, clocking in/out Serial parallel or Parallel Serial Conversion for a variety of applications is available. Multiple speeds . . . 7-9-14 or 16 tracks, and variable bit rates provides data response to every need.

Sabre Systems, Inc., has taken advantage of many years production experience, in the precision aero/space tape recorder industry, to design the Model SS-001 Tape equipment. The System brings to you sound mechanical design, and reliable electronic performance.

The instrument also offers a versatility, which makes it readily adaptable to complex and unusual data recording and analysis applications. Sabre's Engineering Staff is available to you, in selecting the correct recorder approach to your problem.



SABRE

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519 SOUTH FLOWER STREET
BURBANK, CALIFORNIA • 91502

(213) 849-3238

S A B R E

SYSTEMS, INC.

849-7259

849-3239

DELISLE "SUDS" SUDDUTH

**519 S. FLOWER STREET
BURBANK, CALIFORNIA**

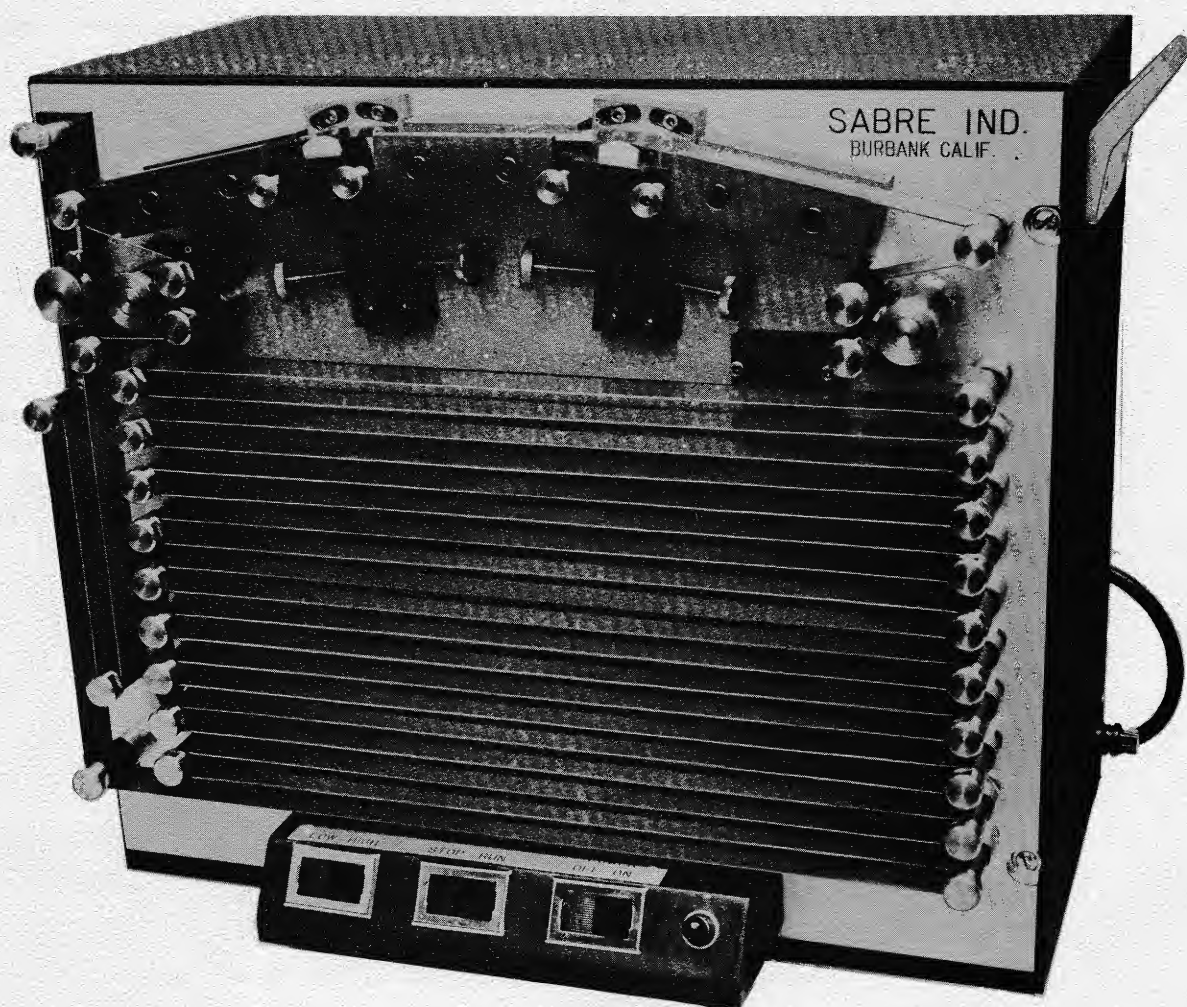
SABRE

SYSTEMS, INC.

Tape Loop

RECORDER/REPRODUCER

MODEL SS - 002 MODEL SS - 002-2



The Model SS-002 Tape Loop is an instrumentation quality tape unit that meets all the technical standards where tape handling is employed. It can be used for the repetitious analysis and programming of data . . . spectrum analysis . . . magnetic head acceptance testing . . . determination of optimum tape tension and head wrap angle . . . digital data storage. The Model SS-002 (unit pictured) will handle 28 feet of tape. The Model SS-002-2 will handle 110 feet of tape. Both units will handle $\frac{1}{2}$ and 1 inch wide tape.

- PRECISION
- RELIABILITY
- CONVENIENCE

SABRE SYSTEMS, INC.

519 SOUTH FLOWER
BURBANK, CALIFORNIA 91502

A variable loop storage capacity, ranging from 4 to 28 feet or 4 to 110 feet, is mounted on a series of bearing mounted guide rollers. A total 13 inches of guidance in the head area controls tracking and skew. Minimum tape wear is assured since every element of the instrument which contacts tape moves at tape speed . . . except the head surfaces.

Dual capstans, one located at the head input and the other at the head output, accurately control the speed and maintain minimum flutter.

Eight speeds are electrically selected in speed pairs from $1\frac{7}{8}$ – $3\frac{3}{4}$. . . to . . . 120 – 240 inches per second. A simple belt change for each speed pair yields all the speed combinations. Controls on the front panel are . . . power (on/off), speed (hi/lo) and tape (run/stop).

The unit can be furnished with standard IRIG tracks or special configurations. The loop can also be equipped with Direct . . . FM . . . or Digital electronics.

SPECIFICATIONS

Power:	115 VAC 60Hz (50Hz and 28VDC optional)
Size:	SS-002 19"W x 17.5"H x 12.5"D SS-002-2 19"W x 54"H x 12.5"D Both models will either rack or cabinet mount.
Weight:	SS-002 35 lbs. SS-002-2 65 lbs.
Tape Length:	SS-002 4 to 28 feet SS-002-2 4 to 110 feet
Tape Width:	$\frac{1}{2}$ " and 1" standard – $\frac{1}{4}$ " to 2.0" optional
Tape Speeds:	($1\frac{7}{8}$ – $3\frac{3}{4}$) (7.5 – 15) (30 – 60) and (120 – 240) ips Other speeds ranging from .3 ips to 300 ips available.
Tape Speed – Accuracy	0.25%
Flutter:	Less than 1.0% p-p DC to 10KHz at 60 ips typically 0.5%
Tape Tension:	Continuously adjustable from 2 oz. to 16 oz.



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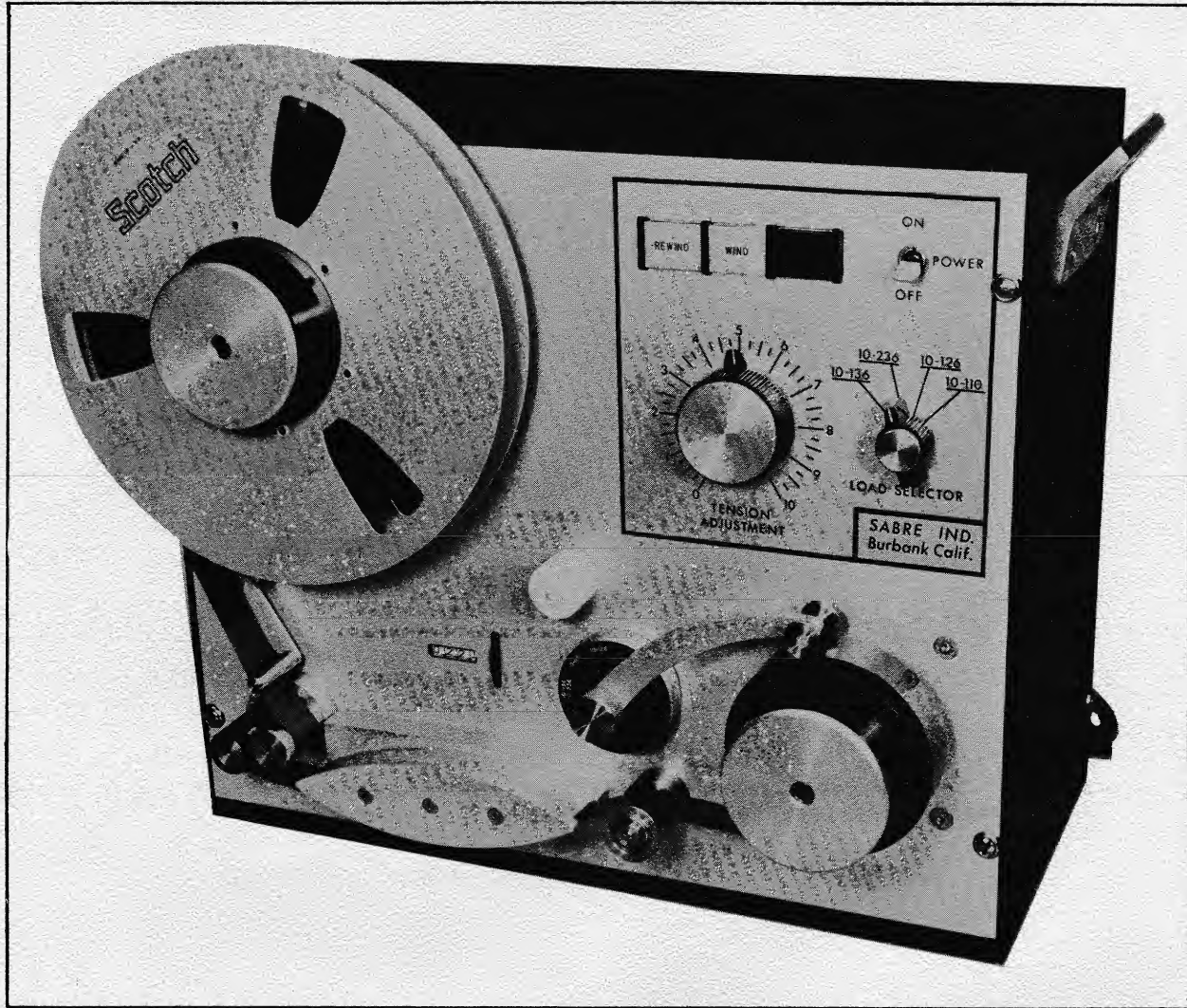
PHONE
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SABRE

SYSTEMS, INC.

Tape Loader

MODEL SS004



AUTOMATIC TAPE LOADER – MODEL SS-004: A Sabre Model SS-004 tape loader will load and unload magnetic tape or film from standard or non-standard reels. The unit will accommodate 1/2" and 1" tapes with standard adaptors, others on special order.

Winding tension is adjustable, and continuously controlled to assure a uniform stack. Precision stacking prevents tape or film deformation which can result in data loss.

A footage counter indicates in feet the amount of tape or film wound. The device can be set to automatically stop when the desired diameter of tape is wound onto the take-up reel. Tape can be unloaded from all standard reel diameters up to and including 14".

The loader is simple to operate and yields a uniform controlled stack, by unskilled personnel.

- PRECISION
- RELIABILITY
- CONVENIENCE

SABRE SYSTEMS, INC.

519 SOUTH FLOWER
BURBANK, CALIFORNIA 91502

Tape Loader

MODEL SS004

SPECIFICATIONS

Size:	18" x 15 1/2" x 9"
Weight:	70 lbs.
Power:	115 VAC 60 Hz
Tension:	Adjustable from 6 to 16 oz.
Tape Winding Speed:	10' /sec.
Tape Footage Accuracy:	1%
Supply Reel:	Up to 14" dia.
Take Up Reel:	Up to 10 1/2" dia. Can accomadate non-standard hubs down to 1.0" dia.
Controls:	Wind, Rewind, Stop, Power on/off, Tension, Automatic Stop, and Load Selector Switch.
Winding:	Either oxide in or oxide out



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RECORDER/REPRODUCER

MODEL SS - 002 MODEL SS - 002-2



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Dual capstans, one located at the head input and the other at the head output, accurately control the speed and maintain minimum flutter.

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The unit can be furnished with standard IRI G tracks or special configurations. The loop can also be equipped with Direct . . . FM . . . or Digital electronics.

SPECIFICATIONS

Power:	115 VAC 60Hz (50Hz and 28VDC optional)
Size:	SS-002 19"W x 17.5"H x 12.5"D
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Weight:	SS-002 35 lbs.
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Tape Length:	SS-002 4 to 28 feet
	SS-002-2 4 to 110 feet
Tape Width:	$\frac{1}{2}$ " and 1" standard – $\frac{1}{4}$ " to 2.0" optional
Tape Speeds:	($1\frac{7}{8}$ – $3\frac{3}{4}$) (7.5 – 15) (30 – 60)
	and (120 – 240) ips
	Other speeds ranging from .3 ips to 300 ips available.
Tape Speed – Accuracy	0.25%
Flutter:	Less than 1.0% p-p DC to 10KHz at 60 ips typically 0.5%
Tape Tension:	Continuously adjustable from 2 oz. to 16 oz.



SYSTEMS, INC.

519 SO. FLOWER STREET
BURBANK, CALIFORNIA 91502

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849-7259
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SABRE

SYSTEMS, INC.

Tape Loader

MODEL SS004



AUTOMATIC TAPE LOADER – MODEL SS-004: A Sabre Model SS-004 tape loader will load and unload magnetic tape or film from standard or non-standard reels. The unit will accommodate 1/2" and 1" tapes with standard adaptors, others on special order.

Winding tension is adjustable, and continuously controlled to assure a uniform stack. Precision stacking prevents tape or film deformation which can result in data loss.

A footage counter indicates in feet the amount of tape or film wound. The device can be set to automatically stop when the desired diameter of tape is wound onto the take-up reel. Tape can be unloaded from all standard reel diameters up to and including 14".

The loader is simple to operate and yields a uniform controlled stack, by unskilled personnel.

- PRECISION
- RELIABILITY
- CONVENIENCE

SABRE SYSTEMS, INC.

519 SOUTH FLOWER
BURBANK, CALIFORNIA 91502

Tape Loader

MODEL SS004

SPECIFICATIONS

Size:	18" x 15 1/2" x 9"
Weight:	70 lbs.
Power:	115 VAC 60 Hz
Tension:	Adjustable from 6 to 16 oz.
Tape Winding Speed:	10' /sec.
Tape Footage Accuracy:	1%
Supply Reel:	Up to 14" dia.
Take Up Reel:	Up to 10 1/2" dia. Can accomodate non-standard hubs down to 1.0" dia.
Controls:	Wind, Rewind, Stop, Power on/off, Tension, Automatic Stop, and Load Selector Switch.
Winding:	Either oxide in or oxide out



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519 SOUTH FLOWER STREET
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(213) 849-3238

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DELISLE "SUDS" SUDDUTH

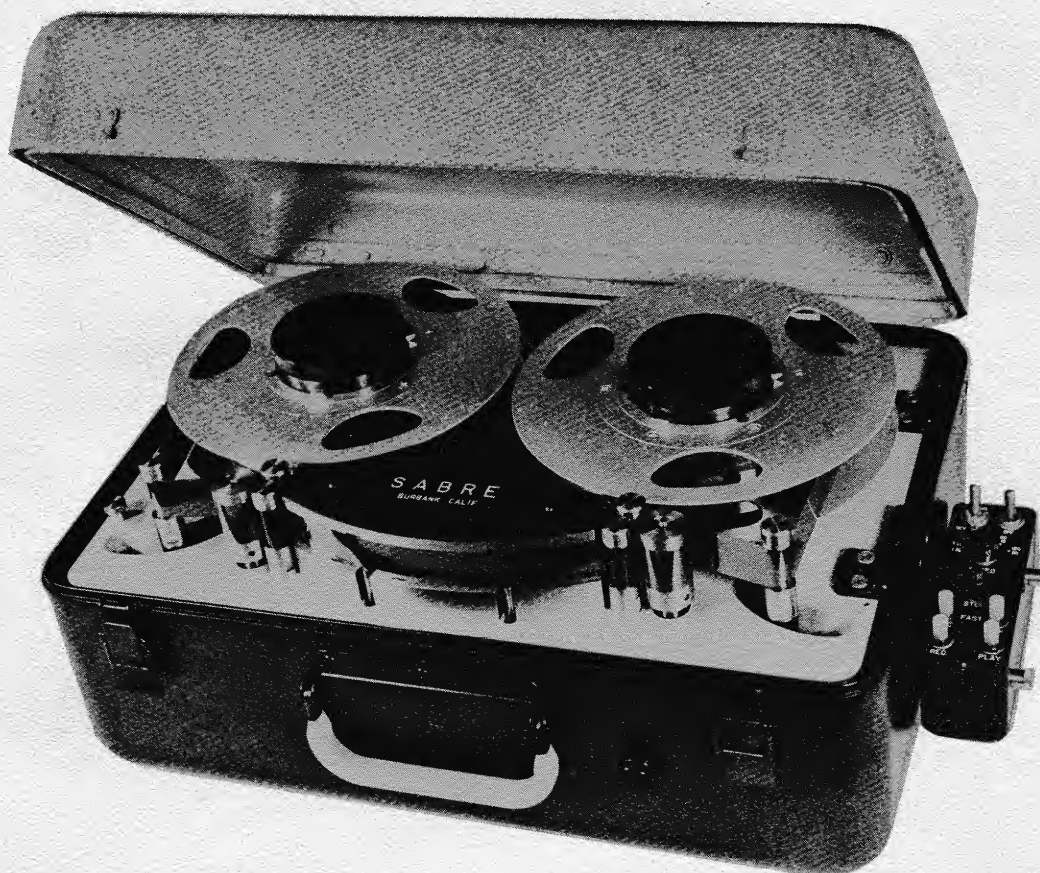
**519 S. FLOWER STREET
BURBANK, CALIFORNIA**

SABRE

SYSTEMS, INC.

Tape Recorder/Reproducer

MODEL SS-001



PORTABLE TAPE RECORDER/REPRODUCER SUITABLE FOR
AIRBORNE • FIELD • LABORATORY • INDUSTRIAL NEEDS
HAS FEATURES AND PERFORMANCE CHARACTERISTICS
• • • ONLY NOW AVAILABLE

- PRECISION
- RELIABILITY
- CONVENIENCE

SABRE SYSTEMS, INC.
519 SOUTH FLOWER
BURBANK, CALIFORNIA 91502

Unique Simplicity Offers Outstanding Performance and Reliability in the Field or Lab.

The SS-001 Tape System is designed to satisfy the most exacting requirements of data gathering and analysis. For the first time, a unit is available, which gives laboratory performance . . . is insensitive to rugged punishment . . . and doesn't cost like it's going to the MOON. This small system gives optimum results, whether on the bed of a truck or rack mounted.

COMPARE THESE FEATURES

Electrically Selectable Speeds SERVO Controlled . . . Small Size . . . Light Weight . . . Instrumentation Quality Performance . . . Tape Lifters to Increase Head Life . . . Low Power . . . Bi-directional Operation . . . Servo Controlled Reel Tape Tension . . . Electronics Easily Accessible . . . Sealable Instrument Case . . . Remote and Local Mode Controls . . . 8" NAB or 8½" IBM Reels . . . Low Stop/Start Time . . . Rapid Tape Width Conversion 1" and 1/2" . . . Positive Action Easy to Operate Reel Hub Locks.

The entire recorder/reproducer system is mounted in a sealed carrying case. The unit unhinges from the case for rack mounting.

The electronics and transport configuration is designed for operation convenience, providing for field adjustment and calibration.



SYSTEM SPECIFICATIONS

Size:	18" x 12" x 8.625"
Weight:	50 lbs.
Power:	28VDC \pm 10% (50-400 Hz 110-220V available)
Temperature:	0° to 60° C. operating
Vibration:	5g's random MIL E 5272C Procedure XIII
Shock:	25g's 11 msec MIL E 5272C Procedure V
Acceleration:	14g's MIL E 5272C Procedure III
Altitude:	150,000 ft.
Humidity:	100% with condensation (with cover closed)

--- Heading For a Field

You Have Opti

SS-001 Tape Transport is designed for convenient operation and maximum reliability. The three motors allow for servo reel tension, and servo capstan speed control. Dynamic braking eliminates mechanical brakes except for the power off mode. Gentle Tape handling and dual capstan tape drive gives trouble free continuous performance. Tape guidance and skew are optimized by a long chute thru the entire head area. The standard unit is designed to conform with IRIG 106-65. Special configurations are also available.

TRANSPORT SPECIFICATIONS

Power:	28VDC \pm 10% 70 Watts
Speeds:	120, 60, 30, 15, 7-1/2, 3-3/4, and 1-7/8 inches per second (any adjacent 5 speeds electrically selectable and servo controlled) 150 ips Fast Forward and Fast Reverse.
Speed regulation:	0.2% (continuously variable speed available)
Flutter:	0.5% pp DC-10KHz at 60 ips
Start/Stop time:	500 milsec maximum at 60 ips
Tape widths:	1" and 1/2" field changeable
Reel size:	8" NAB or 8 1/2" IBM
Tape Capacity:	3/4 mil base 2400 1 mil base 1800 1.5 mil base 1200
Tape lifters:	Operate automatically in fast forward or fast reverse.
Direction of operation:	Bi-directional
Controls:	Record, Play, Fast Fwd., Fast Rev., Stop, Direction, Power On/Off, Speed.
Head Stack Configuration:	In conformance with IRIG 106-65 others on special order

ELECTRONIC PERFORMANCE

The electronics for the SS-001 Tape System are of plug in etched circuit design. Common Power supplies, allows the operator, to select the record/reproduce mode . . . DIRECT . . . FM . . . DIGITAL. Multiple or single speed networks for the electronics can be specified. Adjustments and controls are conveniently located.

ELECTRONIC SPECIFICATIONS (DIRECT AND FM)

(Analog and FM):					
	Direct	S/N		FM	S/N
Tape Speed ips	Band width \pm 3db	db	Carrier	Band Width \pm 0.5db	db
120	300Hz - 600KHz	34	216KHz	DC-40KHz	44
60	300Hz - 300KHz	34	108KHz	DC-20KHz	43
30	200Hz - 150KHz	33	54KHz	DC-10KHz	42
15	100Hz - 75KHz	32	27KHz	DC-5KHz	41
7 1/2	100Hz - 37.5KHz	31	13.5KHz	DC-2.5KHz	40
3 3/4	100Hz - 18.7KHz	30	6.75KHz	EC-1.25KHz	39
1 7/8	100Hz - 9.3KHz	29	3.375KHz	DC-.625KHz	38
				DC-80KC - 120 ips Available	
Input Sensitivity	0.5V to 20V pp			0.5V to 20V pp	
Input Impedance	100K ohm min.			100K ohm min.	
Distortion	1.0% Third Harmonic at normal record level			1.0% max. at \pm 40% deviation	
Linearity	2.0% amplitude			1.0% best straight line	
Stability	Not applicable			1.0% long term	
Output level	5.0V pp			5.0V pp	
Output Impedance	100 ohm max.			100 ohm max.	
Plug-In Networks	Single or multiple speed			Single or multiple speed	

Test
Or Just a Pleasant Break - - -
um Performance



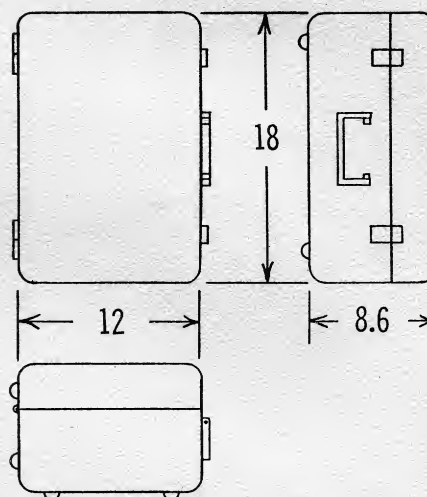
ELECTRONIC SPECIFICATIONS (Digital):

Input Level:	6VDC \pm 1 Volt "1" 0VDC \pm 1 Volt "0"
Input Impedance:	10K ohm minimum
Output Level:	Same as input level
Output Impedance:	600 ohm maximum
Recording format:	NRZ change or NRZ mark
Bit Packing Density:	Up to 1000 bit/inch
Interchannel timing: error:	6 microsec. max. at 60 ips Tape is controlled by 7 inch long chute.
Rise & Fall Time:	1.2 microsec. max.
Bit Dropout Rate	Ranges from one in 10^6 to one in 10^7 Depending on bit rate, packing density and number of tracks

Electronics for digital SKEW correction, clocking in/out Serial parallel or Parallel Serial Conversion for a variety of applications is available. Multiple speeds . . . 7-9-14 or 16 tracks, and variable bit rates provides data response to every need.

Sabre Systems, Inc., has taken advantage of many years production experience, in the precision aero/space tape recorder industry, to design the Model SS-001 Tape equipment. The System brings to you sound mechanical design, and reliable electronic performance.

The instrument also offers a versatility, which makes it readily adaptable to complex and unusual data recording and analysis applications. Sabre's Engineering Staff is available to you, in selecting the correct recorder approach to your problem.



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